

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1, 3-8, and 10-14 are currently pending in the present application. Claims 1, 3-4, 8, 10 and 11 are amended; and Claim 15 is canceled by the present amendment. Support for the amended claims can be found in the original specification, claims and drawings.¹ No new matter is presented.

In the outstanding Official Action, Claims 1, 5-8 and 12-15 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,064,336 to Krasner (herein “the ‘336 patent”) in view of U.S. Patent No. 6,150,980 to Krasner (herein “the ‘980 patent”); and Claims 3-4 and 10-11 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants acknowledge with appreciation the indication of allowable subject matter. In response, independent Claims 1 and 8 are amended to recite a portion of the subject matter of dependent Claims 3-4 and 10-11.

Claims 1, 5-8 and 12-15 were rejected under 35 U.S.C. § 103(a) as unpatentable over the ‘336 patent in view of the ‘980 patent. In response to this rejection, Applicants respectfully submit that amended independent Claims 1 and 8 recite novel features clearly not taught or rendered obvious by the applied references.

Independent Claims 1 and 8 relate to a GPS positioning method and a GPS reception apparatus. Specifically, independent Claim 1 recites, *inter alia*, a GPS positioning method, comprising:

...acquiring high precision frequency information
provided by a standard wave;

¹ e.g., previously presented Claims 3-4 and 10-11.

measuring an oscillation frequency of a reference oscillator used in a GPS receiver section or a frequency variation of the oscillation frequency using the received high-precision frequency information...

performing a positioning arithmetic operation using the high precision time information in place of time information sent from said GPS satellite; and

detecting a synchronization timing regarding a spread code of a spread spectrum signal from said GPS satellite *to detect a time component shorter than one period of the spread code for time synchronization.*

Independent Claim 8, while directed to an alternative embodiment, is amended to recite substantially similar features. Accordingly, the arguments presented below are applicable to each of independent Claims 1 and 8.

Turning to the applied references, both the '336 patent and the '980 patent describe a method for using a precision carrier frequency signal (e.g., from a terrestrial communications system) to calibrate a local oscillator of a GPS receiver which is used to acquire GPS signals.

The '336 patent and/or the '980 patent, neither alone, nor in combination, however, teach or suggest "detecting a synchronization timing regarding a spread code of a spread spectrum signal from said GPS satellite *to detect a time component shorter than one period of the spread code for time synchronization,*" as recited in amended independent Claim 1.

As discussed at col. 9, line 53-col. 10, line 18 of the '336 patent, for example, the data received from the GPS satellite is stored in a series of blocks whose durations are equal to a multiple of the frame period of the PN codes contained in the GPS signals. The blocks are then compressed and filtered to determine the relative timing between the received PN code contained within the block of data and a locally generated PN reference signal. Following this step, a pseudorange is determined by combining magnitude-squared data for all blocks into a single block of data by adding together the blocks of magnitude-squared data to produce a peak. The location of this peak is then determined, which represents a pseudorange to a GPS satellite corresponding to the pseudorandom sequence being

processed. Similarly, at cols. 15-16, the '980 patent describes a process of tagging the boundaries of frames received from the GPS satellite to perform synchronization.

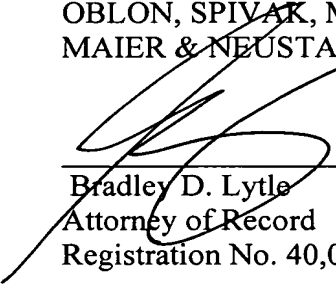
Therefore, neither the '336 patent nor the '980 patent teach or suggest "detecting a synchronization timing regarding a spread code of a spread spectrum signal from said GPS satellite *to detect a time component shorter than one period of the spread code for time synchronization*," as recited in amended independent Claim 1.

Accordingly, Applicant respectfully requests that the rejection of independent Claims 1 and 8 (and the claims that depend therefrom) under 35 U.S.C. § 103(a) be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1, 3-8 and 10-14 are patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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